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EXAMINER

FORMAN, BETTY J

ART UNIT

PAPER NUMBER

1634

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

3/14

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/675,518	DREWES ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	BJ Forman	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 51-82 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 51-82 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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## **FINAL ACTION**

### ***Status of the Claims***

1. This action is in response to papers filed 11 March 2004 in which claims 53, 69, 71 were amended. All of the amendments have been thoroughly reviewed and entered. The previous rejections in the Office Action dated 11 December 2003 under 35 U.S.C. 112, second paragraph are withdrawn in view of the amendments.

The previous rejections under 35 U.S.C. 102 and 35 U.S.C. 103(a) are maintained and are reiterated below.

All of the arguments have been thoroughly reviewed and are discussed below.

Claims 51-82 are under prosecution.

### ***Priority***

2. Applicant's claim for domestic priority under 35 U.S.C. 120 is acknowledged. However, the parent application 08/742,255 filed 31 October 1996 does not provide adequate support under 35 U.S.C. 112 for claims 53, 58-62, 64, 65, 68, 69, 74-78, 80 and 81 of this application. Specifically, the '255 application does not provide support for the instantly claimed "varying the  $sp^2$  and  $sp^3$  character of the diamond-like carbon" recited in claims 53 & 69; the diamond-like compounds recited in claims 58-60 & 74-76; the support material that is not compatible with high temperatures as recited in claims 61, 62, 77 & 78; the capture molecules recited in claim 68; and the hardness of the diamond-like carbon recited in claims 64, 65, 80 and 81.

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Because the '255 application does not teach the above limitations, the '255 application does not provide adequate support under 35 U.S.C. 112 for instant claims 53, 58-62, 64, 65, 68, 69, 74-78, 80 and 81. Therefore, the effective filing date for instant claims 53, 58-62, 64, 65, 68, 69, 74-78, 80 and 81 is the filing date of parent application 08/950,963 i.e. 15 October 1997.

#### **Remarks**

3. The above statement regarding priority is reiterated from the previous Office Actions. In responding to the previous office actions, Applicant has not provided any comments regarding the above statement.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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5. Claims 51-52, 54-58, 61-63, 66-68, 70-74, 77-79, 82 are rejected under 35 U.S.C. 102(b) as being anticipated by Bogart et al (U.S. Patent No. 5,468,606, issued 21 November 1995).

Regarding Claim 51, Bogart et al disclose a support comprising a surface comprising an attachment layer comprising a diamond layer on the surface wherein the attachment layer is adapter for capture of the analyte by binding the analyte and an optically functional layer, an optical property of which is detectable altered upon a change in mass on said optically functional layer (Column 3, lines 13-40; Column 5, lines 27-45; Column 8, lines 31-44; and Claim 7).

Applicant point to the specification to define the direct binding. The cited passage reads:

By "attachment layer" is meant any material or materials which promote or increase the binding of the receptive material to either the support or the optically functional layer, if it is present in the device. When no receptive layer is utilized, the attachment layer non-specifically binds the analyte.

The cited passage does not define "direct binding" but instead teaches that the attachment layer promotes binding of the receptive material or specifically binds the analyte. Bogart et al teaches the attachment layer promotes binding of analyte (e.g. Column 8, line 59-Column 9, line 6). Furthermore, the open claim language "an attachment layer comprising" encompasses any additional components of the Bogart et al attachment layer.

The claim is drawn to "an attachment layer comprising diamond-like carbon on the support surface". The specification defines "diamond like carbon" on pages 19-20 as follows:

"By "diamond-like carbon" is meant a layer composed of a uniform film or packed particles which consist of diamond (synthetic or natural) ..... or diamond-like material with a chemical composition ranging from graphite-like to diamond."

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Bogart teaches their attachment layer comprises diamond on the support surface (Claim 7) and therefore, teach the diamond like carbon as defined in the specification.

Regarding Claim 52, Bogart et al disclose the support wherein the attachment layer comprises a layer of diamond-like carbon of between about 50 Å to about 3000 Å (i.e. the anti-reflective layer is between 480-515Å, Column 5, lines 40-42 and Column 25, lines 32-37).

Regarding Claim 54, Bogart et al disclose the support wherein the diamond is configured to function as an antireflective layer (Column 5, lines 27-35).

Regarding Claim 55, Bogart et al disclose the support wherein the optically functional layer is interposed between the support and the attachment layer (Column 38, lines 4-14 and Fig. 6).

Regarding Claim 56, Bogart et al disclose the support wherein the support provides a change in optical thickness upon binding of the analyte capable of attenuating one or more wavelengths (Column 12, lines 28-40).

Regarding Claim 57, Bogart et al disclose the support wherein the support provides laminar flow across the support (Column 39, line 66-Column 40, line 2).

Regarding Claim 58, Bogart et al disclose the support wherein the attachment layer comprises a diamond-like carbon in the form of natural or synthetic diamond (Column 5, lines 27-35 and Claim 7).

Regarding Claim 61-63, Bogart et al disclose the support comprises a material not compatible with high temperatures e.g. cellulose acetate (Column 64, lines 14-42).

Regarding Claim 66, Bogart et al disclose the support is a biosensor (i.e. device for analyte detection (Column 2, lines 30-53 and Column 4, lines 31-66)).

Regarding Claim 67, Bogart et al disclose a support comprising a surface comprising an attachment layer comprising a layer of diamond-like carbon on the surface of between about 50 Å to about 500 Å (i.e. the anti-reflective layer is between 480-515Å, Column 5, lines 40-42

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and Column 25, lines 32-37) and wherein the attachment layer comprises a capture molecule bound to the diamond like carbon (Column 6, lines 57-Column 7, line 15).

Applicant point to the specification to define the direct binding. The cited passage reads:

By "attachment layer" is meant any material or materials which promote or increase the binding of the receptive material to either the support or the optically functional layer, if it is present in the device. When no receptive layer is utilized, the attachment layer non-specifically binds the analyte.

The cited passage does not define "direct binding" but instead teaches that the attachment layer promotes binding of the receptive material or specifically binds the analyte. Bogart et al teaches the attachment layer promotes binding of analyte (e.g. Column 8, line 59-Column 9, line 6). Furthermore, the open claim language "an attachment layer comprising" encompasses any additional components of the Bogart et al attachment layer.

The claim is drawn to "an attachment layer comprising diamond-like carbon on the support surface". The specification defines "diamond like carbon" on pages 19-20 as follows:

"By "diamond-like carbon" is meant a layer composed of a uniform film or packed particles which consist of diamond (synthetic or natural) ..... or diamond-like material with a chemical composition ranging from graphite-like to diamond."

Bogart teaches their attachment layer comprises diamond on the support surface (Claim 7) and therefore, teach the diamond like carbon as defined in the specification.

Regarding Claim 68, Bogart et al disclose the support wherein the capture molecule is selected from the claimed group (Column 6, lines 3-15).

Regarding Claim 70, Bogart et al disclose the support wherein the diamond is configured to function as an antireflective layer (Column 5, lines 27-35).

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Regarding Claim 71, Bogart et al disclose the support wherein the optically functional layer is interposed between the support and the attachment layer (Column 38, lines 4-14 and Fig. 6).

Regarding Claim 72, Bogart et al disclose the support wherein the support provides a change in optical thickness upon binding of the analyte capable of attenuating one or more wavelengths (Column 12, lines 28-40).

Regarding Claim 73, Bogart et al disclose the support wherein the support provides laminar flow across the support (Column 39, line 66-Column 40, line 2).

Regarding Claim 74, Bogart et al disclose the support wherein the attachment layer comprises a diamond-like carbon in the form of natural or synthetic diamond (Column 5, lines 27-35 and Claim 7).

Regarding Claim 77-79, Bogart et al disclose the support comprises a material not compatible with high temperatures e.g. cellulose acetate (Column 64, lines 14-42).

Regarding Claim 82, Bogart et al disclose the support is a biosensor (i.e. device for analyte detection (Column 2, lines 30-53 and Column 4, lines 31-66)).

### **Response to Arguments**

6. Applicant argues that the diamond material of Bogart is not contained within the attachment layer as instantly claimed. The argument has been considered but is not found persuasive. The instant claims recite “support comprising a surface....comprising: an attachment layer comprising diamond-like carbon on the support surface”. Hence, the claim requires diamond-like carbon “on the support surface”. As Applicant notes, Bogart teaches diamond-like carbon on the support surface at Column 5, lines 15-35).



***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 67-68, 71-76 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobashi (U.S. Patent No. 5,777,372, filed 1 March 1996) in view of Bogart et al (U.S. Patent No. 5,468,606, issued 21 November 1995).

Regarding Claim 67, Kobashi discloses a support comprising a surface on which an assay for an analyte of interest can be preformed comprising: an attachment layer comprising diamond-like carbon on the support surface wherein the attachment layer comprises a layer of diamond-like carbon (Column 7, lines 10-22) and wherein the attachment layer comprises a capture molecule bound to the diamond-like carbon for specific capture of an analyte by binding the analyte to said capture molecule (Column 10, line 26-Column 12, line 33; Column 15, lines 58-64; Fig. 21-23; and Claim 11). Kobashi does not specifically teach the claimed diamond-like carbon thickness of between about 50 Å to about 500 Å. However, attachment layers having the claimed thickness were well known in the art at the time the claimed invention was made as taught by Bogart et al. Bogart et al teach a similar support comprising a surface comprising an attachment layer comprising a layer of diamond-like carbon on the surface of between about 50 Å to about 500 Å (Column 5, lines 40-42 and Column 25, lines 32-37) wherein the claimed thickness is the preferred thickness for attachment layers. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the attachment layer thickness of Bogart et al to the diamond like carbon of Kobashi based on the preference teaching of Bogart et al.

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Regarding Claim 68, Kobashi discloses the support wherein the capture molecule is an enzyme (Column 11, lines 12-22 and Table 1).

Regarding Claim 71, Kobashi discloses the support wherein the support further comprises an optically functional layer between the support and the attachment layer (Column 10, lines 8-49).

Regarding Claim 72, Kobashi discloses the support wherein the support provides a change in optical thickness upon binding the analyte (Column 10, lines 8-49).

Regarding Claim 73, Kobashi discloses the support wherein the support is configured to provide laminar flow across the support (Fig. 7-15).

Regarding Claim 74, Kobashi discloses the support wherein the attachment layer comprises diamond-like carbon selected from the group consisting of synthetic diamond, natural diamond, and polycrystalline diamond (Column 15, lines 58-64).

Regarding Claim 75, Kobashi discloses the support wherein the diamond-like carbon comprises non-carbon material (Column, 10, line 63-Column 11, line 11).

Regarding Claim 76, Kobashi discloses the support wherein the non-carbon material is hydrogen (Column, 10, line 63-Column 11, line 11).

Regarding Claim 82, Kobashi discloses the support wherein the non-carbon material is hydrogen (Column, 10, line 63-Column 11, line 11).

### **Response to Arguments**

9. Applicant argues that Kobashi teaches thickness of diamond is suggested from “a viewpoint of performance and cost”(Col. 7, line 15). From this, Applicant asserts that “a person of ordinary skill in the art would find no motivation to utilize a diamond of the claimed thickness because one of ordinary skill would believe the performance of the electrode would be inferior. The argument has been considered but is not found persuasive because as Applicant notes, Kobashi merely suggests a diamond thickness. Kobashi does not teach or suggest other thickness would not work, but merely suggests the when considering performance **and**

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**cost**, a range of thickness are suggested. Applicant has provided no evidence in the teaching of Kobashi that the claimed thickness would not function or would lead one of ordinary skill to believe the claimed thickness would not function. Furthermore, Applicant's comments regarding functionality of Kobashi's electrodes are moot in view of the fact that the instant claims are not drawn to electrodes.

Applicant further argues that the electrode of Kobashi does not comprise an attachment layer comprising a capture molecule bound to the diamond-like carbon. The argument has been considered but is not found persuasive. The instant claims recite "support comprising a surface....comprising: an attachment layer comprising diamond-like carbon.....on the support surface". Hence, the claim requires diamond-like carbon "on the support surface".

Furthermore, Kobashi teaches the capture molecule binds to the bio-identifier which is bound to the diamond like carbon. Hence, the capture molecule binds to the diamond-like carbon. It is noted that the claims do not define a direct binding and/or contact (e.g. covalent attachment) between the capture molecule and the diamond-like carbon. Hence, Kobashi teaches the binding as claimed.

10. Claims 69 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobashi (U.S. Patent No. 5,777,372, filed 1 March 1998) in view of Bogart et al (U.S. Patent No. 5,468,606, issued 21 November 1995) as applied to claim 67 above and further in view of Yu (U.S. Patent No. 5,273,788, issued 28 December 1993).

Regarding Claim 69, Kobashi teaches the support comprising a surface on which an assay for an analyte of interest can be preformed comprising: an attachment layer comprising diamond-like carbon on the support surface wherein the attachment layer comprises a layer of

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diamond-like carbon of between about 50 Å to about 3000 Å (Column 7, lines 10-22) and wherein the attachment layer a capture molecule bound to the diamond-like carbon for specific capture of an analyte by binding the analyte to said capture molecule (Column 10, line 26-Column 12, line 33; Column 15, lines 58-64; Fig. 21-23; and Claim 11) wherein hydrophobicity is controlled to optimize functionality (Column 5, lines 29-31) but they are silent regarding the control of hydrophobicity results from varying the  $sp^2$  and  $sp^3$  character of the diamond-like carbon. However, Yu teach variations in  $sp^2$  and  $sp^3$  characteristics which determine the hydrophobicity the diamond-like carbon films was well known in the art at the time the claimed invention was made as taught by Yu. Specifically, Yu teaches that the diamond-like film characteristics e.g. hydrophobicity are controlled by altering the  $sp^2$  and  $sp^3$  ratio as desired during formation of the film (Column 3, lines 15-35 and Column 3, line 54-Column 4, line 16). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the controlled film formation taught by Yu to thereby vary the hydrophobicity of the diamond-like carbon attachment later of the support of Kobashi based on their suggestion to vary the hydrophobicity of the attachment layer to optimize attachment of the capture molecule for the obvious benefits of optimizing functionality of the support as taught by Kobashi (5, lines 29-31).

Regarding Claim 70, Kobashi teaches the support comprising diamond-like carbon is illuminated for analysis of analyte binding (Column 17, lines 27-33) but they are silent regarding its function as an antireflective layer. However, it was known in the art at the time the claimed invention was made that diamond-like coatings are antireflective as taught by Yu (Column 1, lines 27-34). Therefore, the diamond-like coating of Kobashi is antireflective.

It is noted that the courts have stated that chemical compositions and its properties are inseparable. Therefore, the properties of the claimed diamond-like carbon are necessarily present in the diamond-like carbon of Kobashi

“Products of identical chemical composition can not have mutually exclusive properties.” A chemical composition and its properties are inseparable. Therefore, if

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the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990) see MPEP § 2112.01.

11. Claims 77-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobashi (U.S. Patent No. 5,777,372, filed 1 March 1996) in view of Bogart et al (U.S. Patent No. 5,468,606, issued 21 November 1995) as applied to claim 67 above and further in view of Turner et al (U.S. Patent No. 5,624,537, filed 20 September 1994).

Regarding Claims 77-79, Kobashi teaches the support comprising a surface on which an assay for an analyte of interest can be preformed comprising: an attachment layer comprising diamond-like carbon on the support surface wherein the attachment layer comprises a layer of diamond-like carbon of between about 50 Å to about 3000 Å (Column 7, lines 10-22) and wherein the attachment layer a capture molecule bound to the diamond-like carbon for specific capture of an analyte by binding the analyte to said capture molecule (Column 10, line 26-Column 12, line 33; Column 15, lines 58-64; Fig. 21-23; and Claim 11) but they are silent regarding the support further comprising a material that is not compatible with high temperatures (Claim 77) with temperatures greater than 100° C (Claim 78) wherein the material that is not compatible with high temperatures is selected from the group consisting of cellulose, acetate, PETE, polyester, polycarbonate, nylon, filter paper, polysulfones, polypropylene and polyurethane (Claim 79). However, biosensors comprising the claimed cellulose and filter paper were well known in the art at the time the claimed invention was made as taught by Turner et al. Specifically, they teach that the cellulose matrix or filter paper allows for efficient and reliable feedback control for the optimization of reaction conditions (Column 4, lines 46-56 and Column 29, lines 36-49). It would have been obvious to

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one of ordinary skill in the art at the time the claimed invention was made to modify the support surface of Kobashi by adding a cellulose matrix or filter paper to the support thereby providing efficient and reliable feedback control for the expected benefit of optimizing reaction conditions as taught by Turner et al (Column 4, lines 46-56 and Column 29, lines 36-49).

12. Claims 80 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobashi (U.S. Patent No. 5,777,372, filed 1 March 1996) in view of Bogart et al (U.S. Patent No. 5,468,606, issued 21 November 1995) as applied to claim 67 above and further in view of Choi et al (U.S. Patent No. 5,883,769, filed 30 June 1997).

Regarding Claim 80, Kobashi teaches the support comprising a surface on which an assay for an analyte of interest can be preformed comprising: an attachment layer comprising diamond-like carbon on the support surface wherein the attachment layer comprises a layer of diamond-like carbon of between about 50 Å to about 3000 Å (Column 7, lines 10-22) and wherein the attachment layer a capture molecule bound to the diamond-like carbon for specific capture of an analyte by binding the analyte to said capture molecule (Column 10, line 26-Column 12, line 33; Column 15, lines 58-64; Fig. 21-23; and Claim 11) but they are silent regarding the hardness of the diamond-like carbon. However, the properties of diamond-like carbon were well known in the art as taught by Choi et al. Specifically, Choi et al teach the hardness of diamond-like carbon is between about 15 to about 50 Gpa (Table 1, Column 3, lines 47-62). Therefore, the diamond-liked carbon of Kobashi has a hardness of between about 15 to about 50 Gpa as claimed.

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Regarding Claim 81, Kobashi teaches the support comprises diamond-like carbon (Abstract and Column 15, lines 58-64) but they are silent regarding the refractive index. However, the properties of diamond-like carbon were well known in the art at the time the claimed invention was made as taught by Choi et al. Specifically, Choi et al teach the refractive index of diamond-like carbon is about 1.5 to about 2.2 (Table 1, Column 3, lines 47-62). Therefore, the diamond-liked carbon of Kobashi has a refractive index of about 1.5 to about 2.2 as claimed.

It is noted that the courts have stated that chemical compositions and its properties are inseparable. Therefore, the properties of the claimed diamond-like carbon are necessarily present in the diamond-like carbon of Kobashi.

"Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990) see MPEP § 2112.01.

### **Response to Arguments**

13. Applicant relies on the arguments presented above regarding Kobashi and Bogart to traverse the above rejections. The arguments have been considered but are not found persuasive as discussed above.

### **Double Patenting**

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 51-52, 54-60, 66-68, 70-76 and 82 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 7, 9, 13 of U.S. Patent No. 5,468,606. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to a device comprising an attachment layer and an optically functionally layer and differ only in the '606 claims add further limitations (e.g. specific binding layer). However, the open claim language "comprising" encompasses any additional elements described in the '606 claims.

The claims sets further differ in the arrangement of the limitations. For example, the instant claims define an attachment layer as comprising an adapted attachment layer and diamond like carbon anti-reflective layer (Claims 54 & 70). These element are separately listed in the '606 attachment layer and anti-reflective layer. However, the limitation in both sets of claims are the same and differ only in their arrangement within the claims. Therefore, the claim sets are not patentably distinct.

16. Claims 51-82 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7, 11, 23-34 and 38-50 of copending Application No. 08/950,963. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to a solid support comprising an attachment layer comprising diamond-like carbon and differ only in the scope of the claims. Specifically, the instant application broadly claims the genus solid support and the '963 claims the species solid support wherein some of the species further



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comprises an optically functional layer and/or provide for sample flow. However, the open claim language "comprising" recited in the instant claims encompasses the additional components of the '963 species. Additionally, instant claims 55, 57, 71 and 73 recite the '963 species limitations i.e. optically functional layer and/or provide for sample flow. Because the instantly claimed solid support is a genus of the '963 solid support species and because instant claims 55, 57, 71 and 73 recite the species limitations, the instant claims are obvious in view of the '963 solid support. The courts have stated that a genus is obvious in view of the teaching of a species see Slayter, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); and In re Gosteli, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### **Response to Comments**

17. Applicant's intention to file a Terminal Disclaimer upon notification of allowable subject matter is acknowledged.

#### **Conclusion**

18. No claim is allowed.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571) 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



BJ Forman, Ph.D.  
Primary Examiner  
Art Unit: 1634  
May 19, 2004